REMARKS

This Amendment is filed in response to the Office Action dated September 13, 2010. In view of these remarks, this application should be allowed and the case passed to issue. No new matter is introduced. Support for the amendment to the specification is found at page 44, lines 6-8 of the specification. The amendment to claim 1 is supported throughout the specification, and originally filed claims 2, 3, 9, and 10. New claim 20 is supported by originally filed 4. Support for new claim 21 is found in originally filed claim 5. The specification provides support for new claim 22 at page 42, lines 2-3 and page 44, lines 6-8. Originally filed claims 1, 4, 5, 6, 7, and 9 provide support for new claims 23 and 24. Claims 11, 12, and 14-16 are amended to maintain proper dependency.

Claims 1, 11, 12, 14-16, 18, and 20-24 are pending in this application. Claims 1-3, 9-12, 14-16, and 19 were rejected. Claim 18 is withdrawn pursuant to a restriction requirement. Claims 1, 11, 12, and 14-16 are amended in this response. Claims 2, 3, 9, 10, and 19 are canceled in this response. Claims 4-8, 13, and 17 were previously canceled.

Restriction

Upon the allowance of the stack-type automobile cell claims, Applicants respectfully request, rejoinder, examination, and allowance of claim 18, the method of manufacturing an automobile cell, in accordance with the provisions of MPEP § 821.04.

to the present claims.

Claim Objections

Claim 19 was objected to as being a substantial duplicate of claim 1.

Claim 19 is canceled in this response, thus, this objection is moot.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-3, 9-12, 14-16, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shibuya et al. (U.S. Pat. No. 6,291,098) in view of Murai et al. (U.S. Pat. No.6,444,355), Takami et al. (U.S. Pat. No. 6,544,682), Yata et al. (U.S. Pat. No. 6,902,847), and Proctor (US 2,381,140). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention, as claimed, and the cited prior art.

An aspect of the invention, per claim 1, is a stack-type automobile cell, comprising an electric power generating element, a positive electrode having a positive electrode active substance layer, a negative electrode having a negative electrode active substance layer, and a separator interposed between the positive electrode and the negative electrode. The positive electrode, the negative electrode and the separator are stacked in a stack direction to allow the positive electrode and the negative electrode, opposing to the positive electrode via the separator, to define a unit electrode. A cell outer sheath made from a laminate film compositely composed of polymer and metal is welded to gas-tightly encapsulate the electric power generating element inside the cell outer sheath such that the stack-type automobile cell is formed in a flat shape with a thickness defined by the cell outer sheath along the stack direction. A positive electrode terminal lead electrically conductive with the positive electrode is sandwiched between welded portions formed by the cell outer sheath that has been welded and extends to an outside of the cell outer sheath. A negative electrode terminal lead electrically conductive with the negative electrode is sandwiched between welded portions formed by the cell outer sheath that has been welded and extends to the outside of the cell outer sheath. A relationship between the thickness of the stack-type automobile cell and a sum of a thickness of the positive electrode active

substance layer and a thickness of the negative electrode active substance layer, along the stack direction of the unit electrodes, is defined such that a value obtained by dividing the thickness of the stack-type automobile cell by the sum of the thickness of the positive electrode active substance layer and the thickness of the negative electrode active substance layer is equal to or greater than 10 and equal to or less than 80. The cell outer sheath is rectangular in shape, and a length of one side, other than that of the cell outer sheath from which the positive electrode terminal lead extends to the outside of the cell outer sheath and that of the cell outer sheath from which the negative electrode terminal lead extends to the outside of the cell outer sheath, are each equal to or less than 250 mm. A value obtained by dividing by a cell capacity of the automobile cell one of a following first surface area and a following second surface area whichever is wider is equal to or greater than 30 (cm^2/Ah), a first surface area in which the positive electrode is projected onto an area of the positive electrode active substance layer in the stack direction, and a second surface area, in which the negative electrode is projected onto an area of the negative electrode active substance layer in the stack direction, where any one of the first surface area and the second surface area is applicable when being equal. A width of the positive electrode terminal lead is equal to or greater than 40 % of a length and equal to or less than 80 % of one side of the cell outer sheath from which the positive electrode terminal lead extends to the outside, and a width of the negative electrode terminal lead is equal to or greater than 40 % of a length and equal to or less than 80 % of one side of the cell outer sheath from which the negative electrode terminal lead extends to the outside. The positive electrode terminal lead and the negative electrode terminal lead extend to the outside from opposing sides of the cell outer sheath, respectively. At least one of the positive electrode terminal lead and the negative electrode terminal lead is selected from Ni, Cu, Al, Fe or an alloy of these metals, and

Ni, Al, Fe or the alloy of these metals coated with differing elements of Ni, Ag and Au. At least one of an average thickness of the positive electrode active substance layer and an average thickness of the negative electrode active substance layer is equal to or greater than 20 μm and equal to or less than 80 μm.

Another aspect of the invention, per claim 23, is a stack-type automobile cell, comprising an electric power generating element, a positive electrode having a positive electrode active substance layer, a negative electrode having a negative electrode active substance layer, and a separator interposed between the positive electrode and the negative electrode. The positive electrode, the negative electrode and the separator are stacked in a stack direction to allow the positive electrode and the negative electrode, opposing to the positive electrode via the separator, to define a unit electrode. A cell outer sheath made from a laminate film compositely composed of polymer and metal is welded to gas-tightly encapsulate the electric power generating element inside the cell outer sheath such that the stack-type automobile cell is formed in a flat shape with a thickness defined by the cell outer sheath along the stack direction. A positive electrode terminal lead electrically conductive with the positive electrode is sandwiched between welded portions formed by the cell outer sheath that has been welded and extends to an outside of the cell outer sheath. A negative electrode terminal lead electrically conductive with the negative electrode is sandwiched between welded portions formed by the cell outer sheath that has been welded and extends to the outside of the cell outer sheath. A relationship between the thickness of the stack-type automobile cell and a sum of a thickness of the positive electrode active substance layer and a thickness of the negative electrode active substance layer, along the stack direction of the unit electrodes, is defined such that a value obtained by dividing the thickness of the stack-type automobile cell by the sum of the thickness of the positive electrode active

substance layer and the thickness of the negative electrode active substance layer is equal to or greater than 10 and equal to or less than 80. The positive electrode active substance layer is formed on a positive electrode current collector and the negative electrode active substance layer is formed on a negative electrode current collector such that a value obtained by dividing a thickness of the positive electrode terminal lead along the stack direction by a sum of a total thickness of the positive electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0. A value obtained by dividing a thickness of the negative electrode terminal lead along the stack direction by a sum of a total thickness of the negative electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0. A width of the positive electrode terminal lead is equal to or greater than 40 % of a length and equal to or less than 80 % of one side of the cell outer sheath from which the positive electrode terminal lead extends to the outside, and a width of the negative electrode terminal lead is equal to or greater than 40 % of a length and equal to or less than 80 % of one side of the cell outer sheath from which the negative electrode terminal lead extends to the outside. At least one of the positive electrode terminal lead and the negative electrode terminal lead is selected from Ni, Cu, Al, Fe, or an alloy of these metals, and Ni, Al, Fe, or the alloy of these metals is coated with different elements of Ni, Ag, and Au.

The Examiner found that Shibuya et al. disclose a thin type cell comprising positive and negative electrodes and electrode thicknesses. The Examiner indicated that Shibuya et al. do not disclose the thickness of the positive electrode current collector, electrolyte, and separator. The Examiner alleged that dividing the thickness of the cell by the thicknesses of the positive and negative electrode active material layers yields a value no greater than ~4.

In view of Murai ct al.'s teaching of 30 μm thick aluminum net, the Examiner maintained that it would have been obvious to use aluminum net with a thickness of 30 μm because it's commonly known to use an aluminum current collector with this dimension to conduct current in a wound battery.

The Examiner averred that Takami et al. disclose that the positive electrode layer and the negative electrode layer each has a thickness between 10 μm and 150 μm and that is possible to improve large discharge characteristics and cycle life. The Examiner contended that it would have been obvious to make the battery of Shibuya et al. and Murai et al. with an electrode layer thicknesses between 10 μm and 150 μm for the benefit of improving cycle life and that doing so would yield a ratio of thickness of the cell by the thickness of the active substances as high as 36.4.

The Examiner alleged that it would have been obvious to stack several unit cells together to as taught by Yata et al. to increase cell capacity. However, merely stacking several unit cells does not increase ccll capacity. As is well known in the art, the capacity of the battery depends on whether the unit cells are electrically connected in parallel or series.

The Examiner acknowledged that Shibuya et al. as modified by Murai et al., Takami et al., and Yata et al. do not teach that the terminal leads are equal to or greater than 40% and equal to or less than 80 % of a length of one side of the cell. The Examiner noted that Proctor teaches a battery having a terminal with a large surface area for heat dissipation. The Examiner thus concluded that terminal surface area is a result effective variable and that it would have been routine skill in the art to optimize a result effective variable.

Shibuya et al., Murai et al., Takami et al., Yata et al., and Proctor whether taken alone, or in combination, do not suggest the claimed article comprising a stack-type automobile cell

mounted on an automobile. The cited references do not suggest that the terminal leads are equal to or greater than 40% and equal to or less than 80 % of a length of one side of the cell, that extend to the outside from opposing sides of the cell outer sheath, as required by claims 1 and 23.

Proctor does not suggest terminal leads approaching any value near 40 % of the length of one side of the cell from which the lead extends to the outside. As shown in Proctor, the terminal lead widths are much less than 40 % of the side of the cell from which the lead extends. Further, it appears as if the lead widths were anywhere near 40 % of the width of the side of the cell from which the lead extends they would interfere with each other, resulting in a short circuit.

As explained in the present specification, a terminal lead width equal to or greater than 40 % the width of the side of the cell from which it extends suppresses heat build-up in the electrode terminal lead (7, 8) during the charging and discharging cycles to enable the charging and discharging at high current, while a terminal lead width of equal to or less than 80 % ensures sufficient case sealing (specification, page 20, lines 3-8).

Proctor simply does not suggest a width of the positive electrode terminal lead is equal to or greater than 40 % of a length and equal to or less than 80 % of one side of the cell outer sheath from which the positive electrode terminal lead extends to the outside, and a width of the negative electrode terminal lead is equal to or greater than 40 % of a length and equal to or less than 80 % of one side of the cell outer sheath from which the negative electrode terminal lead extends to the outside, as required by claims 1 and 23.

The cited combination of references do not suggest the unexpected improvement in electrode terminal lead temperature, as shown in Table 2 of the present specification and the Declarations Under 37 C.F.R. § 1.132 by inventors Takaaki Abe and Osamu Shimamura filed April 25, 2008. As clearly shown in the declarations by Messers Abe and Shimamura, (see

Table 2 and Exhibit 1 of the Declarations), at electrode terminal lead width/cell width (L5, L5'/L6, L6' x 100 %) less than 40 % there is a **sharp and unexpected increase** in the temperature of the electrode terminal lead. Thus, the automobile cells according to the present invention provide an **unexpected improvement** in safety **not** suggested by the cited references.

The Examiner noted that Declarations of Abe and Shimamura demonstrate improved results but not necessarily unexpected results. In addition, the Examiner reiterated that discovering an optimum value or workable ranges of result-effective variable involves only routine skill in the art. The Examiner's discounting of Applicants' evidence of unexpected results is strongly traversed. The evidence in Exhibit 1 clearly shows a sharp increase in the electrode terminal lead temperature, thus the criticality of the claimed range. Thus, it cannot plausibly be asserted that the dramatic temperature increase is expected when the terminal lead width/cell width is decreased to less than 40%. Though the Examiner relies on MPEP § 2144.05 to assert that it would only involve routine skill to optimize a result effective variable, there is no teaching in MPEP § 2144.05 that routine optimization overcomes a showing of unexpected results. To the contrary, MPEP § 2144.05 expressly teaches that a showing of unexpected results rebuts a prima facie case of obviousness.

The Examiner has no basis and has not provided any basis for asserting that a sharp increase in electrode terminal temperature would have been expected. The Examiner merely deemed the decrease in electrode terminal temperature to be expected. Greater than expected results, however, are evidence of unexpected results (see MPEP § 716.02(a)). Furthermore, as explained in *In re Geisler*, 116 F.3d 1465 (Fed. Cir. 1997), "when an applicant demonstrates *substantially* improved results, . . . and *states* that the results were *unexpected*, this should suffice to establish unexpected results *in the absence* of evidence to the contrary." *Geisler*, 116 F.3d at

1471 (quoting *In re Soni*, 54 F.3d 746, 751, 34 USPQ2d 1684, 1688 (Fed. Cir. 1995)) (emphasis in original). In the present application Applicants have presented evidence of unexpected results, while the Examiner has merely presented unsupported arguments. Because the Applicants have presented evidence of unexpected results, while the Examiner has not presented any evidence to counter the unexpected results, it is clear that unexpected results have been established.

The present claims are further distinguishable because Takami et al. and Murai et al. are directed to wound cells, while Shibuya et al., Yata et al., Proctor and the present invention are directed to a stack-type cell. It would not have been obvious to combine the teachings of Murai et al. and Takami et al., directed to wound cells, with the teachings of Shibuya et al., Yata et al., and Proctor, which are directed to stack-type cells. One of ordinary skill in this art attempting to solve a problem in a stack-type cell would not look towards the wound cell teaching of Murai et al. and Takami et al.

The configuration and structure of wound cells and stack-type cells are very different. Each type of cell has its own problems and concerns. Wound cells typically comprise one each of an anode and cathode. The electrodes are long and relatively thin to facilitate winding. The wound structure typically has a single anode tab and cathode tab extending from the wound structure. While in a stack-type cell there can be multiple anode and cathode plates and separator sheets and there are multiple tabs extending from the multiple electrodes. Relatively thicker electrodes can be used in a stack cell than a wound cell. Proper registration of the electrodes have to be maintained during winding or stacking. The means for ensuring proper electrode registration are different for stack-type and wound cells. Thus, the fabrication techniques are quite different for wound cells than stack-type cells. The multiple plates in stack-type cell can make electrode registration more challenging than in a wound cell. Also the

multiple tabs in a stack-type cell can create more possible short circuit paths. In a wound cell electrode dimension tolerances may be of greater concern than in a stack-type cell. The Examiner, however, found that the teachings relied upon in the cited references are not exclusive to the type of cells, whether they be wound or stacked and the combination does not entail combining stacking and winding electrodes. The Examiner's conclusory findings, however, are unsupported. The Examiner alleged that Shibuya et al., Murai et al., and Takami et al. are all in the field of applicant's endeavor and one type of cell is not taught away from another type of cell therefore the combination of references is proper. Applicants traverse. As explained above, the structural and design differences, and the problems encountered when fabricating stack-type and wound cells teach away from combining teachings of Shibuya et al., Murai et al., Takami et al., Yata et al., and Proctor. Furthermore, there is no suggestion at all to use terminal leads equal to or greater than 40% and equal to or less than 80% of the a length of one side of the cell outer sheath in a wound cell. Such a terminal lead width in a wound cell appears to be impractical and may lead to either serious short circuiting problems, or problems with sealing the cell.

The present claims are further distinguishable because Shibuya et al. teach (Example 1) moisture-proofing multi-layered film (4) has a width of 8 cm (80 mm), which width is a counterpart of claimed laminate width L6 (L6') (column 6, lines 63-64). Shibuya et al. further teach (column 7, line 13) that each of the cathode terminal (5) and anode terminal (6) has a width of 5 mm, which width is the counterpart of the claimed electrode terminal width L5 (L5'). Therefore, the ratio of electrode terminal width to laminate width of Shibuya et al. is 5 mm/80 mm = 0.0625. This ratio is much lower than the claimed range of 0.4 to 0.8 (i.e., $0.4L6 \leq L5 \leq 0.8L6$ and $0.4L6' \leq L5' \leq 0.8L6'$). The large difference between the closest prior art value of

0.0625 compared to the low end of the claimed range 0.4, is indicative that the Examiner's finding that the claimed range would be an obvious optimization is unreasonable and untenable.

Furthermore, Shibuya et al. teach (column 5, lines 25-30) that the voltage generated across both ends of the electrode terminals used as cells is not higher than 1/100 of the nominal voltage of the cell. Thus, Shibuya et al. do not remotely suggest the claimed range of 0.4 to 0.8 (i.e., $0.4L6 \leq L5 \leq 0.8L6$ and $0.4L6' \leq L5' \leq 0.8L6'$) (see page 19, line 27 to page 20, line 33 of specification).

In addition, the combination of Shibuya et al., Murai et al., Takami et al., Yata et al., and Proctor do not suggest the cell outer sheath is rectangular in shape, and a length of one side, other than that of the cell outer sheath from which the positive electrode terminal lead extends to the outside of the cell outer sheath and that of the cell outer sheath from which the negative electrode terminal lead extends to the outside of the cell outer sheath, are each equal to or less than 250 mm, a value obtained by dividing by a cell capacity of the automobile cell one of a following first surface area and a following second surface area whichever is wider is equal to or greater than 30 (cm^2/Ah); a first surface area in which the positive electrode is projected onto an area of the positive electrode active substance layer in the stack direction, and a second surface area, in which the negative electrode is projected onto an area of the negative electrode active substance layer in the stack direction, where any one of the first surface area and the second surface area is applicable when being equal, as required by amended claim 1.

Shibuya et al. fail to disclose any effect of the 8 cm by 10 cm moisture-proofing multi-layered film, whereas the present specification (page 19, lines 1-8) sets forth the effect of the maximum length being equal to or less than 250 mm (reduce internal resistance between the remotest area of the electrode terminal lead of the electrode and the opposing end of the

electrode terminal lead, thereby enabling an electric performance required for the automobile to be enhanced).

Further, the Examiner found that the discharge current of the cell is 0.25 mA/cm^2 for 10 weeks or 190 cm^2/Ah. It is not seen how the Examiner the Examiner found or derived the value of 190 cm^2/Ah. If the Examiner maintains this finding, it is respectfully requested the Examiner explain where 190 cm^2/Ah is taught or how it was derived. The present invention, on the other hand, sets forth the effect of the value of equal to or greater than 30 cm^2/Ah (e.g. - enabling an increase in the heat dissipating surface area (heat exchange surface area) of the cell, resulting in an improvement over a life cycle characteristic that is excellent in a heat dissipating property to enable production of a cell with excellent reliability.

Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). There is no suggestion in Shibuya et al., Murai et al., Takami et al., Yata et al., and Proctor to modify the thickness of the stack-type automobile cell and a sum of a thickness of the positive electrode active substance layer and a thickness of the negative electrode active substance layer, along the stack direction of the unit electrodes, such that a value obtained by dividing the thickness of the stack-type automobile cell by the sum of the thickness of the positive electrode active substance layer and the thickness of the negative electrode active substance layer is equal to or greater than 10 and equal to or less than 80, the positive electrode active substance layer is formed on a positive electrode current

collector and the negative electrode active substance layer is formed on a negative electrode current collector such that a value obtained by dividing a thickness of the positive electrode terminal lead along the stack direction by a sum of a total thickness of the positive electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0, and a value obtained by dividing a thickness of the negative electrode terminal lead along the stack direction by a sum of a total thickness of the negative electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0, a width of the positive electrode terminal lead is equal to or greater than 40 % and equal to or less than 80 % of a length of one side of the cell outer sheath from which the positive electrode terminal lead extends to the outside, and a width of the negative electrode terminal lead is equal to or greater than 40 % and equal to or less than 80 % of a length of one side of the cell outer sheath from which the negative electrode terminal lead extends to the outside, and the positive electrode terminal lead and the negative electrode terminal lead extend to the outside from opposing sides of the cell outer sheath, respectively; the cell outer sheath is rectangular in shape, and a length of one side, other than that of the cell outer sheath from which the positive electrode terminal lead extends to the outside of the cell outer sheath and that of the cell outer sheath from which the negative electrode terminal lead extends to the outside of the cell outer sheath, are each equal to or less than 250 mm; a value obtained by dividing by a cell capacity of the automobile cell one of a following first surface area and a following second surface area whichever is wider is equal to or greater than 30 (cm^2/Ah), a first surface area in which the positive electrode is projected onto an area of the positive electrode active substance layer in the stack direction, and a second surface area, in which the negative electrode is projected onto an area of the negative electrode active substance layer in the stack direction, where any one of the

first surface area and the second surface area is applicable when being equal, as required by claim 1; and the thickness of the stack-type automobile cell and a sum of a thickness of the positive electrode active substance layer and a thickness of the negative electrode active substance layer, along the stack direction of the unit electrodes, such that a value obtained by dividing the thickness of the stack-type automobile cell by the sum of the thickness of the positive electrode active substance layer and the thickness of the negative electrode active substance layer is equal to or greater than 10 and equal to or less than 80, the positive electrode active substance layer is formed on a positive electrode current collector and the negative electrode active substance layer is formed on a negative electrode current collector such that a value obtained by dividing a thickness of the positive electrode terminal lead along the stack direction by a sum of a total thickness of the positive electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0, and a value obtained by dividing a thickness of the negative electrode terminal lead along the stack direction by a sum of a total thickness of the negative electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0, a width of the positive electrode terminal lead is equal to or greater than 40 % and equal to or less than 80 % of a length of one side of the cell outer sheath from which the positive electrode terminal lead extends to the outside, and a width of the negative electrode terminal lead is equal to or greater than 40 % and equal to or less than 80 % of a length of one side of the cell outer sheath from which the negative electrode terminal lead extends to the outside, as required by new claim 23. Therefore, claims 1 and 23 are <u>not</u> obvious in view of Shibuya et al., Murai et al., Takami et al., Yata et al., and Proctor.

The mere fact that references can be combined or modified does not render the resulting combination obvious unless the prior art also suggests the desirability of the modification. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). It is submitted that Murai et al, Takami et al., Yata et al., and Proctor do not suggest the desirability of the claimed arrangement of the automobile cell of the present invention. Even if it were possible to combine the **five** cited references in such a manner by picking and choosing specific teachings from the cited references to achieve the present invention, it is submitted that the process of picking and choosing would result from an <u>impermissible hindsight reconstruction</u> of the claimed invention. There is no suggestion in the combined references to produce a stack-type automobile cell with the specifically claimed structure.

The only teaching of the claimed stack-type automobile cell comprising positive and negative electrodes wherein a relationship between the thickness of the stack-type automobile cell and a sum of a thickness of the positive electrode active substance layer and a thickness of the negative electrode active substance layer, along the stack direction of the unit electrodes, is defined such that a value obtained by dividing the thickness of the stack-type automobile cell by the sum of the thickness of the positive electrode active substance layer and the thickness of the negative electrode active substance layer is equal to or greater than 10 and equal to or less than 80, the positive electrode active substance layer is formed on a positive electrode current collector and the negative electrode active substance layer is formed on a negative electrode current collector such that a value obtained by dividing a thickness of the positive electrode terminal lead along the stack direction by a sum of a total thickness of the positive electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0, and a value obtained by dividing a thickness of the negative electrode terminal lead

along the stack direction by a sum of a total thickness of the negative electrode current collector in the stack-type automobile cell is equal to or greater than 0.4 and equal to or less than 2.0, a width of the positive electrode terminal lead is equal to or greater than 40 % and equal to or less than 80 % of a length of one side of the cell outer sheath from which the positive electrode terminal lead extends to the outside, and a width of the negative electrode terminal lead is equal to or greater than 40 % and equal to or less than 80 % of a length of one side of the cell outer sheath from which the negative electrode terminal lead extends to the outside, and the positive electrode terminal lead and the negative electrode terminal lead extend to the outside from opposing sides of the cell outer sheath, respectively; The cell outer sheath is rectangular in shape, and a length of one side, other than that of the cell outer sheath from which the positive electrode terminal lead extends to the outside of the cell outer sheath and that of the cell outer sheath from which the negative electrode terminal lead extends to the outside of the cell outer sheath, are each equal to or less than 250 mm; a value obtained by dividing by a cell capacity of the automobile cell one of a following first surface area and a following second surface area whichever is wider is equal to or greater than 30 (cm^2/Ah), a first surface area in which the positive electrode is projected onto an area of the positive electrode active substance layer in the stack direction, and a second surface area, in which the negative electrode is projected onto an area of the negative electrode active substance layer in the stack direction, where any one of the first surface area and the second surface area is applicable when being equal, is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

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The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend and further distinguish the claimed stack-type automobile cells.

In view of the above remarks, Applicants submit this application allowed and the case passed to issue. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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